JPSS Program Science Review of the SDR Validation Stage

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Review Panel Members

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SDR validation is the critical path for accurate EDRs and applications.

JPSS Program connects the dots:

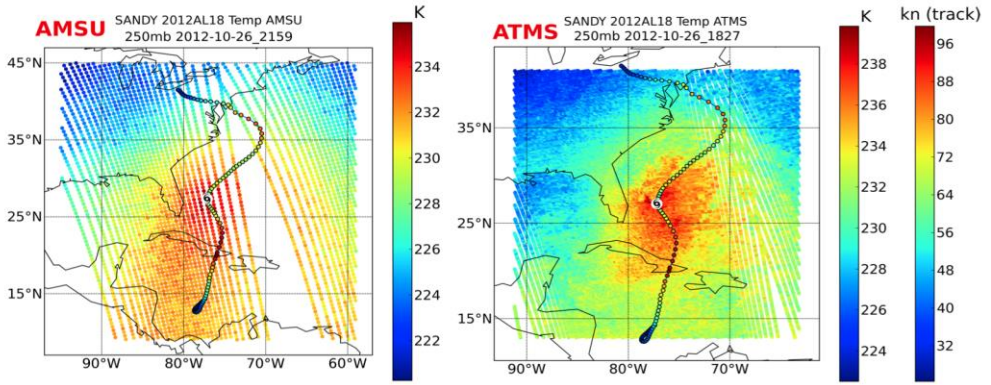
Flight - Instruments, spacecraft

Ground - data reception and real-time operational product generation and access points to the user community

Algorithm Program - provides algorithms for operational product generation and includes calibration and validation, long term maintenance and enhancements.

Proving Ground – focuses on improving user applications by fusion of JPSS data in key NOAA /partner products and services such as weather forecasting, fire monitoring, coastal ecosystems, air quality, ice/snow monitoring, drought monitoring, etc. Provides direct readout applications and training.

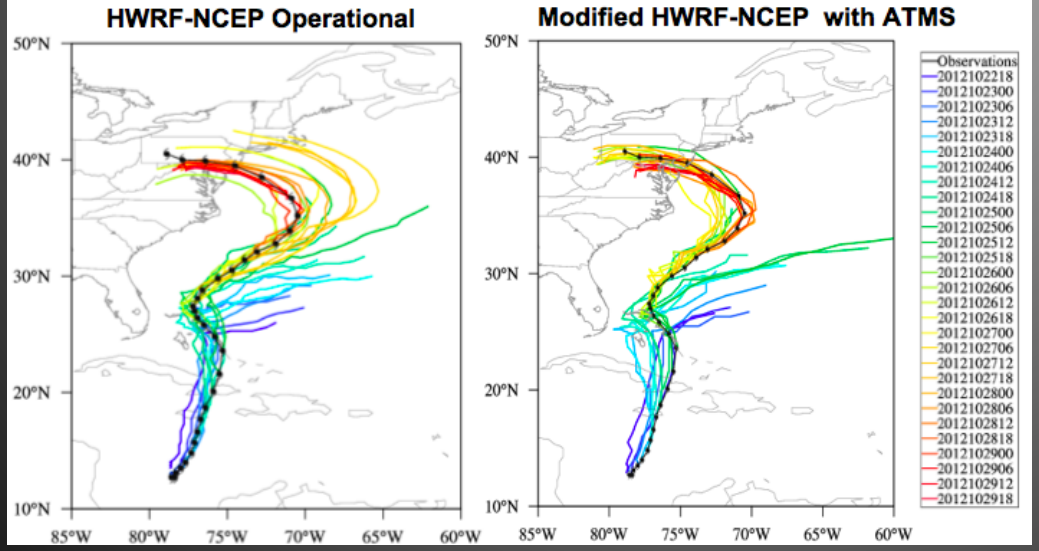
Resolution: ATMS vs AMSU



ATMS:

- higher resolution
- wider swath
- much smaller gaps between passes

Experimental results showing improvements in Sandy track forecasts from Hurricane Weather Research Forecast model with ATMS



Algorithm Program provides the science and stewardship to enable high quality ATMS SDRs from the ground segment which enables Proving Ground to invest in the necessary changes to the HWRF model to demonstrate improved hurricane track forecasting using ATMS

Operational use of SNPP data

May 1, 2012, VIIRS imagery used to support local warning and forecast operations throughout the NWS Alaska Region.

May 22, 2012, the Advanced Technology Microwave Sounder (ATMS) radiances were operationally assimilated in the National Centers for Environmental Prediction's (NCEP)/ NWS Global Forecast System (GFS).

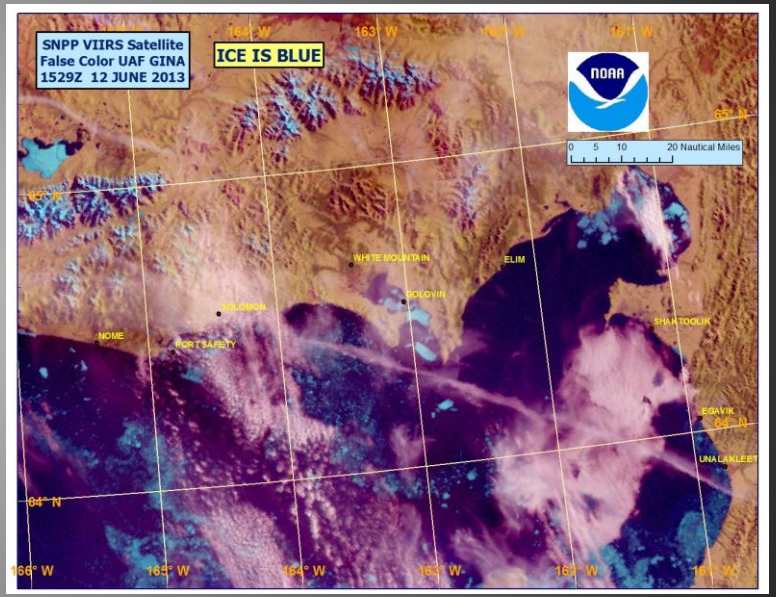
September 25, 2012, ATMS data was assimilated operationally into the European Centre for Medium-Range Weather Forecasts (ECMWF) weather forecast models.

April 2013, the United Kingdom Meteorology Office began assimilating operational data from the Cross-track Imaging Radiometer Suite (CrIS) and ATMS into its weather forecast models.

August 20, 2013, NCEP began incorporating S-NPP CrIS satellite data operationally into the GFS.

October 31, 2013, NCEP/CPC started to use OMPS Ozone operationally

November, 2013, NRL started to use ATMS operationally in their global forecast model.



Criteria for Beta Maturity

Beta
Early Release Product
Initial Calibration is Applied and Minimal Validation
Large errors may exist
Version control may not identify errors
Available to allow users to gain familiarity with data formats and parameters
Data not ready to be used in scientific publications or applications

Criteria for Provisional Maturity

Provisional
Product quality may not be optimal
Incremental product improvements are still occurring as calibration parameters are adjusted
Version control is in affect
General research community is encouraged to participate in the QA
Users are urged to consult the SDR product status documents prior to use of the data in publications
Ready for operational evaluation

Criteria for Validated Maturity

Validated
On-orbit sensor performance characterized and calibration parameters adjusted accordingly
Ready for operational use and scientific studies
There may be later improved versions
There will be strong version control with documentation

Request for Action Form

Suomi NPP SDR Science and Products Review
December 18 – 20, 2013
NCWCP, College Park, MD

Originator Name:	**Phone #:**	**Org:**
RFA Title:		
Action: (include presentation section and page #)		
Rationale:		
Review Team clarification:		
Assigned To:	**Assignee Phone #**	
Date Closed:		